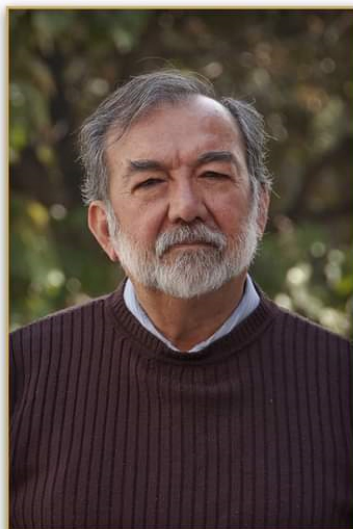


# Psocid News

## The Psocidologists' Newsletter

No. 25 (Feb 28, 2023)



Late Dr. Alfonso Neri García Aldrete

### IN MEMORIAL OF ALFONSO NERI GARCIA ALDRETE

**José Arturo Casasola-González** (Instituto de Estudios Ambientales, Universidad de la Sierra Juárez)

Since I was a child I have always been interested in insects and that was the reason that led me to become a biologist, but in the beginning, my knowledge of insects was limited only to the most common groups, that is, to beetles and butterflies, mainly. However, everything changed when Alfonso García Aldrete opened the doors to a world totally unknown to me and it was then that I discovered the fascinating world of psocids. Alfonso was my professor at the university and he gave me General Entomology laboratory classes, one of the courses that I enjoyed the most during my entire stay at the university. Due to the interest that I showed in the classes and the ability I had to dissect and mount insects, he asked me to help him prepare the specimens with which he worked and that is how my professional career began, but it was also the beginning of a great friendship that grew over time.

For me, Alfonso was not only a teacher, he was also an "academic father" who guided me at all times and helped me develop professionally and in my personal life. I always had great respect for him, and despite the camaraderie and trust we had, for me he was always "Dr. Alfonso". I always admired his way of working, he was a methodical and constant man, every day he did several activities, one after the other, he wrote a few lines for a manuscript, dissected a specimen, made an illustration and described some new species, always with great enthusiasm and, although he showed a serious image, he really was a kind and cheerful person, who enjoyed his work, his friendships and especially his family. Another thing that fascinated me was the patience and dedication with which he dissected and prepared the specimens, almost always accompanied by the music of Johann Sebastian Bach, thanks to Alfonso I discovered my taste for ancient and baroque music.

I remember that one of the things that Alfonso enjoyed a lot was traveling and just as he was methodical in the laboratory, he was also methodical in the field work, he made a lot of effort in the search and collection of psocids, but he also took the opportunity to visit the places where he was going. He not only liked to contemplate natural landscapes, he also admired pre-Columbian archaeological remains and colonial baroque art, he was a cultured man. He enjoyed good food, which he always accompanied with a glass of wine or a shot of tequila. He was a great fan of soccer and his favorite team was the "pumas" from UNAM, but he also followed the "tigers" from the Universidad Autónoma de Nuevo León, his alma mater's team.

Alfonso graduated as an Agricultural Engineer from the Monterrey Institute of Technology and Higher Studies, where years later he also obtained a Master's degree in Biological Sciences. He completed his doctorate at Illinois State University, Normal, Illinois, United States, with Professor Edward L. Mockford and upon returning to Mexico, he joined the Institute of Biology of the National Autonomous University of Mexico, where he worked as a prolific researcher. until his last days. His work covers more than 220 publications, 15 book chapters and two books, in addition to being the editor of 6 books. He described more than 36 genera and more than 660 species in 82 genera, mainly from the genera *Lachesilla*, *Triplocania*, *Euplocania* and *Goja*. Although his work focused on the knowledge of the diversity and taxonomy of the Psocoptera of Mexico, he also described species from other countries and in recent years, he dedicated himself to the study of the species from Colombia and Brazil, where he also contributed to the emergence of important research groups led by Dr. Ranulfo González and Dr. José Albertino Rafael.

With Alfonso I shared moments that will remain in my memory forever, his departure leaves a great void in me and although I will always remember him with joy, his absence hurts me a lot. I will always be grateful for the trust he had in me from the beginning and, above all, for the opportunity he gave me to develop professionally as a psocopterologist. However, he still had a lot to teach me and I still had a lot to learn from him. His departure is an unfortunate loss, but his legacy will prevail forever, thank you so much Dr. Alfonso Neri García Aldrete!



Oaxaca, May 2015 (left to right: Alberto Moreira da Silva-Neto, Brazil; Cristian Román Palacios, Colombia; Alfonso Neri García Aldrete; José Arturo Casasola-González; Mr. Juan Santiago Hernández, inhabitant of the community of Santa Catarina Lachatao, Oaxaca)

## **ADDITIONS AND CORRECTIONS (PART 22) TO LIENHARD & SMITHERS, 2002: "PSOCOPTERA (INSECTA) – WORLD CATALOGUE AND BIBLIOGRAPHY"**

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### **1. Introduction**

This is the 22nd part of a series of "Additions and Corrections to the World Catalogue and Bibliography" (Lienhard & Smithers, 2002) published in "Psocid News". Parts 1-21 were published in Psocid News no. 4-24 (see below); a **Synthesis of Parts 1-10** is given by Lienhard (2016d = Psocid News Special Issue 3), a **Synthesis of Parts 11-20** is given by Lienhard (2021b = Psocid News Special Issue 4), see <http://hdl.handle.net/2115/35519>.

Please send me regularly copies of your papers on Psocoptera, and please inform me about errors that you find in Lienhard & Smithers (2002). If papers which came to your notice are not treated in the "Additions", please send me the bibliographical references by e-mail. In the "Additions to the Bibliography", references to the papers which I have not yet seen are marked with "(Not seen)" or "(Only abstract seen)". Please send me a copy or PDF of these papers if you feel concerned. Only papers which I have seen are analysed for the "Additions to the Catalogue", or those where the matter they deal with is clearly indicated in the title or in the abstract.

In general these "Additions" present the information in the style of the catalogue (Lienhard & Smithers, 2002), according to the criteria mentioned there (pp. ix-xli) and using the same abbreviations (pp. xl-xli). For each family, newly published changes concerning supra-generic taxa are mentioned at the beginning of the family treatment. For genus-group names and species-group names already listed by Lienhard & Smithers (2002) only the author is cited here. For new names the complete reference (author, year, page) is given in their first entry, where new genus-group names are marked with two asterisks (\*\*) and new species-group names with one asterisk (\*). For a name not listed by Lienhard & Smithers (2002), but cited in a preceding part of the "Additions", author and year are always mentioned. Genera are listed alphabetically within each family. Species are listed alphabetically within each genus. Species names are cited in the combination used by Lienhard & Smithers (2002), if not an explicit change of combination (or a new synonymy) has been published since.

The "Corrections to Lienhard & Smithers, 2002" refer to the pages of Lienhard & Smithers (2002) and the changes proposed are usually underlined.

No nomenclatural act is published in the "Additions to the Catalogue" because articles in "Psocid News" are not considered as published works under the rules of ICZN (see Editorial: Disclaimer). Sometimes recommendations to future revisers are given concerning nomenclatural acts which eventually should be published. Only some mandatory changes are made in the "Additions to the Catalogue" (e. g. adaptation of species name ending to the grammatical gender of the genus name).

### **2. List of countries mentioned in the "Additions and Corrections to the World Catalogue" (Parts 1-22)**

Country checklists of Psocoptera species extracted from Lienhard & Smithers (2002) are given by Lienhard (2016b = Psocid News Special Issue 1).

All additional species records are mentioned in the "Additions and Corrections to the World Catalogue" and all countries mentioned in Parts 1 to 22 of these Additions are listed below, arranged according to the main geographical regions defined for the Catalogue (**I-X**), with a separate heading for fossils (**A**), mainly from amber. This list is provided to facilitate computer searching for distributional references in the online version of the different parts (see Psocid News no. 4-25) or in the **Synthesis of Parts 1-10** given by Lienhard (2016d = Psocid News Special Issue 3) and the **Synthesis of Parts 11-20** given by Lienhard (2021b = Psocid News Special Issue 4) which all can be found at <http://hdl.handle.net/2115/35519>.

- Part 1 – Psocid News, no. 4 (2003): 2-24 (= Lienhard, 2003a)
- Part 2 – Psocid News, no. 5 (2003): 2-37 (= Lienhard, 2003b)
- Part 3 – Psocid News, no. 6 (2004): 1-23 (= Lienhard, 2004a)
- Part 4 – Psocid News, no. 7 (2005): 1-16 (= Lienhard, 2005a)
- Part 5 – Psocid News, no. 8 (2006): 1-18 (= Lienhard, 2006a)

Part 6 – Psocid News, no. 9 (2007): 1-17 (= Lienhard, 2007a)  
 Part 7 – Psocid News, no. 10 (2008): 1-18 (= Lienhard, 2008a)  
 Part 8 – Psocid News, no. 11 (2009): 2-16 (= Lienhard, 2009a)  
 Part 9 – Psocid News, no. 12 (2010): 1-18 (= Lienhard, 2010)  
 Part 10 – Psocid News, no. 13 (2011): 1-18 (= Lienhard, 2011a)

**Synthesis of Parts 1-10, see Lienhard (2016d)**

Part 11 – Psocid News, no. 14 (2012): 1-13 (= Lienhard, 2012a)  
 Part 12 – Psocid News, no. 15 (2013): 1-21 (= Lienhard, 2013)  
 Part 13 – Psocid News, no. 16 (2014): 1-20 (= Lienhard, 2014)  
 Part 14 – Psocid News, no. 17 (2015): 1-17 (= Lienhard, 2015)  
 Part 15 – Psocid News, no. 18 (2016): 1-12 (= Lienhard, 2016a)  
 Part 16 – Psocid News, no. 19 (2017): 1-18 (= Lienhard, 2017)  
 Part 17 – Psocid News, no. 20 (2018): 4-17 (= Lienhard, 2018)  
 Part 18 – Psocid News, no. 21 (2019): 10-34 (= Lienhard, 2019)  
 Part 19 – Psocid News, no. 22 (2020): 16-29 (= Lienhard, 2020b)  
 Part 20 – Psocid News, no. 23 (2021): 1-20 (= Lienhard, 2021a)

**Synthesis of Parts 11-20, see Lienhard (2021b)**

Part 21 – Psocid News, no. 24 (2022): 2-18 (= Lienhard, 2022)  
 Part 22 – Psocid News, no. 25 (2023) (= present issue)

**(I)** Albania (Parts 14, 16), Armenia (Parts 19, 21), Austria (Parts 1, 3, 4, 5, 6, 8, 9), Bahrain (Part 8), Belarus (Parts 20, 21), Belgium (Parts 3, 6, 8, 10, 16, 17, 18, 19, 20), Bosnia-Herzegovina (Part 14), Bulgaria (Parts 8, 14, 16, 17, 18, 19, 20, 21, 22), Croatia (Parts 6, 7, 11, 12), Cyprus (Part 11), Czech Republic (Parts 1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 16), Denmark (Parts 10, 12, 15[Greenland]), Egypt (Parts 6, 21, 22), Europe (Parts 10, 11, 12, 19), Finland (Parts 1, 7, 10, 11, 12, 13, 15), France (Parts 1, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 18, 20, 21, 22), Germany (Parts 1, 3, 4, 5, 7, 8, 10, 11, 12, 14, 16, 19, 20, 21, 22), Great Britain (Parts 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19), Greece (Parts 5, 6, 11, 14, 17, 18, 19, 20, 21), Hungary (Parts 1, 3, 10), Iceland (Part 10), Iran (Parts 6, 8, 15, 16, 17, 18), Ireland (Parts 6, 9, 13, 17, 19), Israel (Parts 4, 6, 8, 11, 15, 16), Italy (Parts 1, 3, 5, 6, 7, 8, 9, 10, 17, 18, 19, 22), Jordan (Part 21), Kosovo (Part 14), Lebanon (Parts 6, 7, 9, 10, 11, 13, 14, 19, 21, 22), Lithuania (Part 8), Luxembourg (Parts 1, 3, 7, 8, 10, 13, 17, 18, 20, 21, 22), Macedonia (Parts 14, 21), Malta (Parts 15, 16), Montenegro (Part 14), Morocco (Parts 10, 15, 21), Netherlands (Parts 4, 7, 9, 11, 14, 16, 17, 19, 21, 22), Norway (Parts 4, 10, 13, 21), Oman (Part 8), Poland (Part 13), Portugal (Parts 6, 7, 18, 19, 21), Romania (Parts 10, 14, 16, 17), Russia (Parts 6, 8, 10, 12, 13, 14, 16, 20, 22), Saudi Arabia (Parts 8, 15), Serbia (Part 14), Slovakia (Parts 1, 11, 13), Spain (Parts 1, 5, 7, 8, 9, 11, 12, 13, 17, 18, 20, 21, 22), Sweden (Part 8, 10, 17, 22), Switzerland (Parts 1, 3, 4, 6, 7, 8, 11, 12, 21), Turkey (Parts 5, 10, 15, 20, 21), UAE (Parts 8, 9), Ukraine (Part 6), Yemen (Parts 4, 8, 18, 20)

**(II)** Ascension Island (Parts 11, 15), Azores (Parts 5, 11, 21), Canary Islands (Parts 1, 4, 5, 10, 11), Cape Verde Islands (Parts 5, 11, 15), Gough Island (Parts 5, 6), Madeira (Parts 5, 8, 15), Saint Helena (Parts 5, 11), Selvagens Islands (Parts 1, 8)

**(III)** Bahamas (Part 13), Canada (Parts 4, 6, 7, 8, 13, 18, 19, 20), Greenland (Part 15), North America (Parts 11, 12), USA (Parts 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22)

**(IV)** Antigua (Part 15), Aruba (Part 15), Belize (Parts 1, 4, 6, 8, 9, 10, 15), Costa Rica (Parts 1, 6, 8, 15, 17, 18, 20), Cuba (Parts 6, 11), Curaçao (Part 15), Dominica (Parts 5, 6, 11), Dominican Republic (Parts 4, 6, 7, 8, 12, 13, 14, 18, 19, 20), Guadeloupe (Part 15), Guatemala (Parts 1, 4, 7, 8, 11, 15, 16, 17), Haiti (Parts 1, 4), Hispaniola (Part 10), Honduras (Parts 8, 15), Jamaica (Parts 7, 8, 9, 15, 19), Mexico (Parts 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22), Middle America (Part 11), Nicaragua (Parts 1, 3, 4, 6, 7, 8, 13), Panama (Parts 4, 6, 8, 17, 20), Puerto Rico (Parts 1, 7, 10, 13), Trinidad (Parts 1, 16)

**(V)** Argentina (Parts 3, 4, 8, 9, 14, 19, 22), Bolivia (Parts 1, 5, 9, 10, 17, 21), Brazil (Parts 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22), Chile (Parts 1, 4, 6, 8, 21), Colombia (Parts 1, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22), Ecuador (Parts 1, 6, 8, 13, 15, 16, 18, 20, 22), French Guiana (Part 18), Paraguay (Parts 13, 14, 15), Peru (Parts 1, 5, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 20, 21), Suriname (Part 10), Venezuela (Parts 1, 4, 6, 7, 8, 10, 15, 17, 18)

**(VI)** Ethiopia (Part 20), Ghana (Parts 4, 18), Guinea (Parts 1, 20), Kenya (Parts 4, 15, 16, 18, 20, 22), Liberia (Part 15), Madagascar (Parts 5, 22), Malawi (Part 3), Mozambique (Parts 15, 20), Namibia (Parts 1, 6, 7, 8, 10, 19), Rwanda (Part 15), Senegal (Parts 15, 20, 22), South Africa (Parts 3, 6, 7, 8, 11, 20, 22), Tanzania (Parts 3, 4, 21, 22), Togo (Part 15), Uganda (Part 6)

**(VII)** Mauritius (Part 21), Reunion (Part 15)

(VIII) Afghanistan (Part 21), Brunei (Parts 5, 6), China (Parts 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22), Hong Kong (Part 5), India (Parts 3, 5, 6, 7, 11, 15, 20, 21, 22), Indonesia (Parts 1, 3, 5, 6, 10, 15, 22), Japan (Parts 1, 4, 6, 7, 8, 9, 10, 12, 16, 18, 19, 20), Kazakhstan (Part 13), Korea (Part 17), Kuril Islands (Part 4), Kyrgyzstan (Part 5), Laos (Parts 5, 6, 17), Malaysia (Parts 1, 5, 6, 8, 10, 14, 15, 18, 19, 22), Myanmar (Parts 6, 8, 13, 14, 16, 17, 18, 19, 20, 21, 22), Nepal (Parts 7, 18), New Guinea (Parts 3, 5, 8), Pakistan (Part 14), Philippines (Parts 3, 5, 6, 14, 18, 20), Russia (Parts 1, 10, 11, 20, 21), SE-Asia (Part 7), Singapore (Parts 5, 14, 15), Sri Lanka (Parts 4, 6, 19), Taiwan (Parts 1, 6, 7, 8, 13, 15, 17, 18, 21), Thailand (Parts 1, 4, 5, 6, 9, 11, 15, 18, 20, 22), USSR (Parts 4, 9), Vietnam (Parts 4, 5, 6, 8, 13, 14, 15, 17, 20)

(IX) Australia (Parts 1, 4, 5, 6, 7, 8, 10, 12, 13, 14, 20), Lord Howe Island (Parts 4, 7), New Zealand (Parts 1, 4, 13, 16, 18), Subantarctic islands (Part 13), Tasmania (Part 9)

(X) Easter Island (Parts 13, 16), Fiji (Parts 8, 15), Galapagos (Parts 5, 12), Hawaii (Parts 8, 13, 14, 22), New Caledonia (Part 12)

(A) Amber and Copal (or other fossils) (Parts 1, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22)

### 3. Additions to the Catalogue

#### **Psocodea** (selected general references)

Bonino, 2022: Psocodea in amber (A).

#### **Psocoptera**

Cordoba & Perez, 2021: presence of Psoc. in Colección Entomológica del Instituto-Fundación Miguel Lillo, Tucumán, Argentina (V) mentioned (but no taxa listed). Dennis, 2021: Diptera Asilidae as predator. Savoldelli, S. *et al.*, 2021: pest in historical library, Italy (I). Ferraz *et al.*, 2022: psocids on lychee trees, Brazil (V). Georgiev, 2022d: updated checklists for Kenya (VI) and Tanzania: Zanzibar (VI). Gwiazdowicz, *et al.*: psocids on an endemic tree species, Greece, island of Crete (I). Hakim *et al.*, 2022: debris-carrying nymph from Lebanese amber (A). Lampert *et al.*, 2022: psocids on *Quercus* spp., USA (III). Lienhard, 2022: Additions to the World Catalogue and Bibliography, Part 21. Liu Xingyue & Cao Lieran 2022: obituary Li Fasheng. Maksoud *et al.*, 2022: Lower Cretaceous Amber (A), Lebanon (I), Psoc. spp. listed on p. 743. Mendez *et al.*, 2022: attraction to ornamental lighting in urban area. Novais *et al.* 2022: colonisation of leaf shelters, Mexico (IV). Rozanova, O. L. *et al.*, 2022: presence of psocids in "arthropod rain", Russia (I). Saenz Manchola *et al.*, 2022a, 2022b: phylogeny. Vivas-Toro & Mendivil-Nieto, 2022: bat as predator, Colombia (V). Xu Chunpeng *et al.*, 2022: debris-carrying camouflage in fossil psocids, Cretaceous (A). Yoshizawa, 2022 (ed.): Newsletter.

#### **Trogiomorpha**

Checklist of fossil species. Alvarez-Parra *et al.*, 2022: Table 1.

**Brachyantennum**\*\* Liang Feiyang & Liu Xingyue 2022, in Zhang Xinyi *et al.*, 2022: 2. Gender: N. Type species: *Brachyantennum spinosum* Liang Feiyang & Liu Xingyue. **Family incertae sedis**.

**Brachyantennum spinosum**\* Liang Feiyang & Liu Xingyue 2022, in Zhang Xinyi *et al.*, 2022: 2. Myanmar (VIII), mid-Cretaceous amber (A).

#### **Prionoglarididae**

**Neotroglia** Lienhard. Behaviour: Kamimura & Yoshizawa, 2022 (sex role reversal).

**Prionoglaris stygia** Enderlein. Anat.: Cheng Zixin & Yoshizawa, 2022 (muscles of female genitalia); Kawata *et al.*, 2022 (thoracic muscles).

#### **Psyllipsocidae**

Checklist of Oriental species: Lienhard *et al.*, 2022.

**Psyllipsocus apicosectus**\* Lienhard & Yoshizawa in Lienhard *et al.*, 2022: 2 and 16 (replacement name). China (VIII).

*Psyllipsocus maculatus* Li Fasheng, 2002, **junior homonym**.

[Not *Psyllipsocus maculatus* Garcia Aldrete, 1993, **senior homonym**].

**Psyllipsocus clunijunctus** Lienhard, in Lienhard & Ferreira, 2013b. Anat.: Cheng Zixin & Yoshizawa, 2022 (muscles of female genitalia).

**Psyllipsocus formosus**\* Lienhard & Yoshizawa in Lienhard *et al.*, 2022: 8. Peninsular Malaysia (VIII).

**Psyllipsocus hyalomarginatus**\* Lienhard & Yoshizawa in Lienhard *et al.*, 2022: 14. Thailand (VIII).



*Psyllipsocus ramburii* Selys-Longchamp.

*Psyllipsocus sarawakensis*\* Lienhard & Yoshizawa in Lienhard *et al.*, 2022: 10. East Malaysia: Sarawak (VIII).

*Psyllipsocus siamensis*\* Lienhard & Yoshizawa in Lienhard *et al.*, 2022: 12. Thailand (VIII).

*Psyllipsocus yongi* New & Lee. Thailand (VIII): Lienhard *et al.*, 2022 (description of male).

*Psyllipsocus yucatan* Gurney. Thailand (VIII): Lienhard *et al.*, 2022. Biol.: Kumar *et al.*, 2022 (pp. 24-26: natural surface coating of wing membranes, mentioned after Lienhard *et al.*, 2012).

## **Atropetae**

Phylogeny: Li Sheng *et al.*, 2022.

## **Archaeatropidae**

Emended diagnosis. Alvarez-Parra *et al.*, 2022: 6.

Archaeatropidae considered as junior synonym of Empheriidae: Li Sheng *et al.*, 2022.

Gen. spec. (nymph). Spain (I), Lower Cretaceous amber (A): Alvarez-Parra *et al.*, 2022: 7 (description).

*Archaeatropos* Baz & Ortuño. Emended diagnosis: Alvarez-Parra *et al.*, 2022: 9.

*Archaeatropos alavensis* Baz & Ortuño. Emended diagnosis: Alvarez-Parra *et al.*, 2022: 9.

*Libanoglaris hespericus*\* Alvarez-Parra, Peñalver, Nel & Delclos, 2022: 12. Spain (I), Lower Cretaceous amber (A).

*Longiantennum*\*\* Liang Feiyang, Li Sheng & Yao Yunzhi 2022, in Liang Feiyang *et al.*, 2022: 2. Gender: N. Type species: *Longiantennum fashengi* Liang Feiyang, Li Sheng & Yao Yunzhi.

*Longiantennum fashengi*\* Liang Feiyang, Li Sheng & Yao Yunzhi 2022, in Liang Feiyang *et al.*, 2022: 2. Myanmar (VIII), mid-Cretaceous amber (A).

## **Empheriidae**

*Burmempheeria curvatavena*\* Li Sheng, Yoshizawa & Yao Yunzhi 2022, in Li Sheng *et al.*, 2022: 4. Myanmar (VIII), mid-Cretaceous amber (A).

*Latempheeria*\*\* Li Sheng, Yoshizawa & Yao Yunzhi 2022, in Li Sheng *et al.*, 2022: 4. Gender: F. Type species: *Latempheeria kachinensis* Li Sheng, Yoshizawa & Yao Yunzhi.

*Latempheeria kachinensis*\* Li Sheng, Yoshizawa & Yao Yunzhi 2022, in Li Sheng *et al.*, 2022: 4. Myanmar (VIII), mid-Cretaceous amber (A).

*Preempheeria antiqua* Baz & Ortuño, 2001b. Spain (I), Lower Cretaceous amber (A): Alvarez-Parra *et al.*, 2022 (description, figs).

## **Psoquillidae**

*Rhyopsocus* spec. Kenya (VI): Georgiev, 2022d.

## **Trogiidae**

*Cerobasis* spec. Kenya (VI): Georgiev, 2022d.

*Cerobasis annulata* (Hagen). Germany (I): Klausnitzer & Altmann, 2021.

*Cerobasis guestfalica* (Kolbe). Bulgaria (I): Georgiev, 2022f. Greece (I): Georgiev, 2022a.

*Cerobasis lienhardi*\* Georgiev, 2022e: 53. Kenya (VI).

*Lepinotus patruelis* Pearman. Germany (I): Klausnitzer & Altmann, 2021.

*Lepinotus reticulatus* Enderlein. Bulgaria (I): Georgiev, 2022f. Anat.: Cheng Zixin & Yoshizawa, 2022 (muscles of female genitalia). Pest: Danso *et al.*, 2022 (control).

*Trogium pulsatorium* (Linnaeus). Germany (I): Klausnitzer & Altmann, 2021. Greece (I): Georgiev, 2022a.

## **Lepidopsocidae**

Gen. spec. Kenya (VI): Georgiev, 2022d.

Thylacellinae: Alvarez-Parra & Nel, 2022 (palaeobiology and biogeography).

*Cyptophania hirsuta* Banks. Netherlands (I): Noordijk, 2022 (photograph).

*Echinopsocus* spec. Kenya (VI): Georgiev, 2022d.

*Echinopsocus keniensis*\* Georgiev, 2022e: 51. Kenya (VI).

*Echmepteryx hageni* (Packard). Anat.: Kawata *et al.*, 2022 (thoracic muscles).

*Echmepteryx lunulata* Thornton, Lee & Chui. Kenya (VI): Georgiev, 2022d.

*Echmepteryx (Thylacopsis) madagascariensis* (Kolbe). Kenya (VI): Georgiev, 2022d.

*Echmepteryx (Thylacopsis) pallida* Smithers. Kenya (VI): Georgiev, 2022d.

*Lepidopsocus* spec. Hawaii (X): Honsberger *et al.*, 2022 (eggs as host of an endoparasitoid Hymenoptera).

*Lepidopsocus pretiosus* (Banks). Kenya (VI): Georgiev, 2022d.

*Lepolepis bicolor* Broadhead. Kenya (VI): Georgiev, 2022d.  
*Parathylacella*\*\* Alvarez-Parra & Nel, 2022: 2. Gender: F. Type species: *Parathylacella oisensis* Alvarez-Parra & Nel.  
*Parathylacella oisensis*\* Alvarez-Parra & Nel, 2022: 2. France (I), Eocene amber (A).  
*Thylacella* Enderlein. Georgiev, 2022c: Key to species from Africa and Madagascar (VI).  
*Thylacella* spec. Kenya (VI): Georgiev, 2022d.  
*Thylacella zanzibarica*\* Georgiev, 2022c: 26. Tanzania: Zanzibar (VI).

### **Pachytroctidae**

*Nanopsocus* spec. Kenya (VI): Georgiev, 2022d, 2022e.  
*Peritroctes cochinensis* Menon. Tanzania: Zanzibar (VI): Georgiev, 2022d.  
*Tapinella curvata* Badonnel. Kenya (VI): Georgiev, 2022d.

### **Liposcelididae**

*Belaphopsocus murphyi* Lienhard. Kenya (VI): Georgiev, 2022d.  
*Belaphotroctes grimaldii*\* Engel & Wang, 2022: 488. Tertiary amber (Miocene) (A) from China (VIII).  
*Liposcelis* spec. Germany (I): Klausnitzer & Altmann, 2021. Genet.: Feng Shiqian *et al.*, 2022a (mitochondrial genome)  
*Liposcelis albothoracica* Broadhead. Kenya (VI): Georgiev, 2022d.  
*Liposcelis angolensis* Badonnel. Kenya (VI): Georgiev, 2022d.  
*Liposcelis bostrychophila* Badonnel. Egypt (I): Abu El-Hassan *et al.*, 2021 (pest in library). Kenya (VI): Georgiev, 2022d. Senegal (VI): Mediannikov *et al.*, 2022 (**sexual strain**). Genet.: Feng Shiqian *et al.*, 2022a (mitochondrial genome). Pest: Abu El-Hassan *et al.*, 2021 (pest in library); Athanassiou *et al.*, 2021 (cold tolerance, control); Danso *et al.*, 2022 (control); Feng Yi-Xi *et al.*, 2022 (control); Mediannikov *et al.*, 2022 (domestic *Liposcelis* as pathogen in mammals due to its infection by *Rickettsia felis*); Wang Xiang-Dong *et al.*, 2022 (control); Zhang Jia-Wei *et al.*, 2022a, 2022b (control).  
*Liposcelis brunnea* Motschulsky. USA (III): Feng Shiqian *et al.*, 2022b. Genet.: Feng Shiqian *et al.*, 2022b (chromosome level genome).  
*Liposcelis decolor* (Pearman). Bulgaria (I): Georgiev, 2022f. Greece (I): Georgiev, 2022a. Pest: Danso *et al.*, 2022 (control).  
*Liposcelis entomophila* (Enderlein). Kenya (VI): Georgiev, 2022d. Pest: Danso *et al.*, 2022 (control). Phys.: Yang Bin-Bin *et al.*, 2022 (vitellogenesis and ovarian development).  
*Liposcelis fusciceps* Badonnel. Pest: Danso *et al.*, 2022 (control).  
*Liposcelis obscura* Broadhead. Pest: Danso *et al.*, 2022 (control).  
*Liposcelis paeta* Pearman. Pest: Danso *et al.*, 2022 (control).  
*Liposcelis pearmani* Lienhard. Bulgaria (I): Georgiev, 2022f.  
*Liposcelis puber* Badonnel. Kenya (VI): Georgiev, 2022d.  
*Liposcelis rufa* Broadhead. Pest: Danso *et al.*, 2022 (control).

### **Amphientomidae**

Gen. spec. Anat.: Cheng Zixin & Yoshizawa, 2022 (muscles of female genitalia); Kawata *et al.*, 2022 (thoracic muscles).  
*Lithoseopsis* spec. Kenya (VI): Georgiev, 2022d.  
*Lithoseopsis juliani*\* Georgiev, 2022e: 56. Kenya (VI).

### **Psocomorpha**

Phylogenomics: Saenz Manchola *et al.*, 2022a.

### **Archipsocidae**

Gen spec. South Africa (VI): Georgiev, 2022d.  
*Archipsocopsis* cf. *fernandi* (Pearman). Kenya (VI): Georgiev, 2022d.  
*Archipsocopsis* cf. *machadoi* (Badonnel). Kenya (VI): Georgiev, 2022d.  
*Archipsocus* spec. Tanzania: Zanzibar (VI): Georgiev, 2022d. Anat.: Cheng Zixin & Yoshizawa, 2022 (muscles of female genitalia); Kawata *et al.*, 2022 (thoracic muscles).  
*Archipsocus* cf. *ghesquierei* Badonnel. Kenya (VI): Georgiev, 2022d.  
*Archipsocus lenkoi* Badonnel. Brazil (V): Costa *et al.*, 2022.  
*Archipsocus* cf. *passosi* Badonnel. Kenya (VI): Georgiev, 2022d.

### **Paracaeciliidae**

*Enderleinella obsoleta* (Stephens). Germany (I): Klausnitzer & Altmann, 2021.

### **Stenopsocidae**

*Graphopsocus cruciatus* (Linnaeus). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021 (photograph). Greece (I): Georgiev, 2022a.

*Stenopsocus immaculatus* (Stephens). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.

*Stenopsocus stigmaticus* (Imhoff & Labram). Germany (I): Klausnitzer & Altmann, 2021 (photograph).

### **Caeciliusidae**

*Caecilius fuscopterus* (Latreille). Germany (I): Klausnitzer & Altmann, 2021.

*Stenocaecilius casarum* (Badonnel). South Africa (VI): Georgiev, 2022d.

*Valenzuela atricornis* (McLachlan). Germany (I): Klausnitzer & Altmann, 2021.

*Valenzuela badiostigma* (Okamoto). Anat.: Cheng Zixin & Yoshizawa, 2022 (muscles of female genitalia); Kawata *et al.*, 2022 (thoracic muscles).

*Valenzuela burmeisteri* (Brauer). Bulgaria (I): Georgiev, 2022f.

*Valenzuela corsicus* (Kolbe). Bulgaria (I): Georgiev, 2022b. Germany (I): Klausnitzer & Altmann, 2021.

*Valenzuela despaxi* (Badonnel). Germany (I): Klausnitzer & Altmann, 2021.

*Valenzuela flavidus* (Stephens). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021 (photograph). Luxembourg (I): de Moya, 2022 (biol.). USA (III): de Moya, 2022 (biol.). Biol.: de Moya, 2022 (ploidy level differences in sexual and asexual populations of the *flavidus* species complex).

*Valenzuela gynapterus* (Tetens). Germany (I): Klausnitzer & Altmann, 2021.

*Valenzuela piceus* (Kolbe). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.

### **Homilopsocidea**

*Eolachesilla* Badonnel. Genus incertae sedis within Homilopsocidea according to Saenz Manchola *et al.*, 2022b: 9.

### **Lachesillidae**

Saenz Manchola *et al.*, 2022b: monophyly of Lachesillidae excluding *Eolachesilla* strongly supported.

*Eolachesilla* Badonnel. Genus incertae sedis within Homilopsocidea according to Saenz Manchola *et al.*, 2022b: 9.

*Lachesilla* Westwood. Paraphyletic genus according to Saenz Manchola *et al.*, 2022b: 9.

*Lachesilla bernardi* Badonnel. Bulgaria (I): Georgiev, 2022f.

*Lachesilla gammaoides*\* Garcia Aldrete, 2022: 2. Mexico (IV).

*Lachesilla grandis* Badonnel. Kenya (VI): Georgiev, 2022d.

*Lachesilla pedicularia* (Linnaeus). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.

*Lachesilla quercus* (Kolbe). Bulgaria (I): Georgiev, 2022f. Greece (I): Georgiev, 2022a.

### **Peripsocidae**

*Peripsocus alboguttatus* (Dalman). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021 (photograph).

*Peripsocus didymus* (Roesler). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.

*Peripsocus ghesquierei* Badonnel. Kenya (VI): Georgiev, 2022d.

*Peripsocus pallidus* Broadhead & Richards. Tanzania: Zanzibar (VI): Georgiev, 2022d.

*Peripsocus parvulus* Kolbe. Germany (I): Klausnitzer & Altmann, 2021.

*Peripsocus phaeopterus* (Stephens). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.

*Peripsocus subfasciatus* (Rambur). Germany (I): Klausnitzer & Altmann, 2021 (photograph).

### **Ectopsocidae**

*Ectopsocus* spec. Kenya (VI): Georgiev, 2022d.

*Ectopsocus briggsi* McLachlan. Bulgaria (I): Georgiev, 2022f. Tanzania: Zanzibar (VI): Georgiev, 2022d.

*Ectopsocus coccophilus* Ball. Kenya (VI) and Tanzania: Zanzibar (VI): Georgiev, 2022d.

*Ectopsocus disjunctus*\* Garcia Aldrete & Saenz Manchola, 2022: 593. Mexico (IV).

*Ectopsocus maindroni* Badonnel. Kenya (VI) and Tanzania: Zanzibar (VI): Georgiev, 2022d.



*Ectopsocus meridionalis* Ribaga. Bulgaria (I): Georgiev, 2022f. Greece (I): Georgiev, 2022a.  
*Ectopsocus petersi* Smithers. Bulgaria (I): Georgiev, 2022f.  
*Ectopsocus pilosus* Badonnel. Kenya (VI): Georgiev, 2022d.  
*Ectopsocus pumilis* (Banks). Spain (I): Miralles-Núñez *et al.*, 2022 (pest).  
*Ectopsocus richardsi* (Pearman). Spain (I): Miralles-Núñez *et al.*, 2022 (pest).  
*Ectopsocus* cf. *similis* Badonnel. Kenya (VI): Georgiev, 2022d.  
*Ectopsocus titschacki* Jentsch. Kenya (VI): Georgiev, 2022d.

#### Elipsocidae

*Cuneopalpus cyanops* (Rostock). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.  
*Elipsocus abdominalis* Reuter. Germany (I): Klausnitzer & Altmann, 2021.  
*Elipsocus hyalinus* (Stephens). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.  
*Elipsocus moebiusi* Tetens. Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.  
*Elipsocus pumilis* (Hagen). Germany (I): Klausnitzer & Altmann, 2021.  
*Nepiomorpha annulata* Badonnel. Kenya (VI): Georgiev, 2022d.  
*Pseudopsocus fusciceps* (Reuter). Germany (I): Klausnitzer & Altmann, 2021.  
*Pseudopsocus meridionalis* Badonnel. Germany (I): Klausnitzer & Altmann, 2021.  
*Pseudopsocus rostocki* Kolbe. Germany (I): Klausnitzer & Altmann, 2021.  
*Reuterella helvimacula* (Enderlein). Bulgaria (I): Georgiev, 2022b.

#### Mesopsocidae

*Mesopsocus* spec. Bulgaria (I): Georgiev, 2022f.  
*Mesopsocus fuscifrons* Meinander. Belgium, Denmark, France (also Corsica), Germany, Italy, Malta, Morocco, Netherlands, Sweden (I): Schuch *et al.*, 2021 (phenology).  
*Mesopsocus helveticus* Lienhard. Bulgaria (I): Georgiev, 2022b.  
*Mesopsocus unipunctatus* (Müller). Germany (I): Klausnitzer & Altmann, 2021.

#### Philotarsidae

*Aaroniella* spec. South Africa (VI): Georgiev, 2022d.  
*Aaroniella badonneli* (Danks). Bulgaria (I): Georgiev, 2022f.  
*Haplophallus africanus* Broadhead & Richards. Kenya (VI): Georgiev, 2022d.  
*Philotarsus parviceps* Roesler. Germany (I): Klausnitzer & Altmann, 2021 (photograph).  
*Philotarsus picicornis* (Fabricius). Germany (I): Klausnitzer & Altmann, 2021.

#### Trichopsocidae

*Trichopsocus brincki* Badonnel. France (I): Quintin, 2021.  
*Trichopsocus dali* (McLachlan). Bulgaria (I): Georgiev, 2022f.

**Calopsocidae / Pseudocaeciliidae** (NB: The family definition of "Pseudocaeciliidae *sensu lato*" proposed by Yoshizawa & Johnson, 2014 is here accepted, so the name Pseudocaeciliidae Pearman, 1936 becomes a junior subjective synonym of Calopsocidae Kolbe, 1882).

*Heterocaecilius solocipennis* (Enderlein). Anat.: Kawata *et al.*, 2022 (thoracic muscles)  
*Mepleres* spec. Tanzania: Zanzibar (VI): Georgiev, 2022d.  
*Mepleres gurusamyi*\* Georgiev, 2022e: 59. Tanzania: Zanzibar (VI).  
*Phallocaecilius indicus*\* Ramesh, Babu & Subramanian, 2022: 52. India (VIII).  
*Trimerocaecilius becheti* Meinander. Bulgaria (I): Georgiev, 2022f.  
*Trimerocaecilius popovi* Meinander. Bulgaria (I): Georgiev, 2022f.

#### Dolabellopsocidae

*Dolabellopsocus ctenatus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 3.  
*Dolabellopsocus pygmaeus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 3.  
*Isthmopsocus breviceps* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 5.  
*Isthmopsocus ornatus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 5.

#### Cladiopsocidae

*Cladiopsocus domesticus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 3.  
*Cladiopsocus fuscus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 3.

## Ptiloneuridae

- Euplocania* Enderlein. Key to species (males only), checklist of species with distribution, definition of *ticuna* species group and *waorani* species group: Vinasco-Mondragon *et al.*, 2022. Definition of *uariniensis* species group and invalidation of *marginata* species group: Gonzalez-Obando *et al.*, 2022a. Checklist of Brazilian species: Pereira *et al.*, 2022a.
- Euplocania guticortessorum*\* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2022a: 131. Colombia, Brazil (V).
- Euplocania huitota*\* Vinasco-Mondragon, Gonzalez-Obando & Garcia Aldrete, 2022: 105. Colombia (V).
- Euplocania kakwa*\* Vinasco-Mondragon, Gonzalez-Obando & Garcia Aldrete, 2022: 107. Colombia (V).
- Euplocania macuxi*\* Pereira, Silva-Neto & Boldrini, 2022: 2 (assigned to *marginata* species group). Brazil (V).
- Euplocania maraca*\* Pereira, Silva-Neto & Boldrini, 2022: 4 (assigned to *amabilis* species group). Brazil (V).
- Euplocania napensis*\* Vinasco-Mondragon, Gonzalez-Obando & Garcia Aldrete, 2022: 109. Ecuador (V).
- Euplocania nukak*\* Vinasco-Mondragon, Gonzalez-Obando & Garcia Aldrete, 2022: 109. Colombia (V).
- Euplocania shuar*\* Vinasco-Mondragon, Gonzalez-Obando & Garcia Aldrete, 2022: 112. Ecuador (V).
- Euplocania teslai*\* Vinasco-Mondragon, Gonzalez-Obando & Garcia Aldrete, 2022: 114. Ecuador (V).
- Euplocania ticuna*\* Vinasco-Mondragon, Gonzalez-Obando & Garcia Aldrete, 2022: 114. Colombia (V).
- Euplocania ufr*\* Pereira, Silva-Neto & Boldrini, 2022: 6 (assigned to *amabilis* species group). Brazil (V).
- Euplocania waorani*\* Vinasco-Mondragon, Gonzalez-Obando & Garcia Aldrete, 2022: 117. Ecuador (V).
- Euplocania wilsoni*\* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2022a: 131. Brazil (V).
- Loneura* Navas. Key to Brazilian species: Cutrim *et al.*, 2022a.
- Loneura cavernicola*\* Cutrim, in Cutrim *et al.*, 2022a: 255 (variability of wing venation). Brazil (V).
- Loneura maracaensis* Garcia Aldrete, 2004e. Brazil (V): Cutrim *et al.*, 2022a (further description, variability of wing venation).
- Ptiloneura* Enderlein. Geographical and altitudinal distribution of Colombian species in Valle del Cauca department; key to some species (with figures): Gonzalez-Obando *et al.*, 2022b.
- Ptiloneura baiana* (Silva Neto, Garcia Aldrete & Rafael, 2018). Brazil (V): Cutrim *et al.*, 2022b (variability of forewing venation).
- Ptiloneura castroi*\* Cutrim, Silva Neto, Rafael & Garcia Aldrete, 2022b: 494. Brazil (V).
- Ptiloneura elduende*\* Gonzalez-Obando, Garcia Aldrete, Carrejo-Gironza & Sarria Rodriguez, 2022b: 474. Colombia (V).
- Ptiloneura leonardoi*\* Cutrim, Silva Neto, Rafael & Garcia Aldrete, 2022b: 496. Brazil (V).
- Ptiloneura pichindensis*\* Gonzalez-Obando, Garcia Aldrete, Carrejo-Gironza & Sarria Rodriguez, 2022b: 476. Colombia (V).
- Timnewia greeni* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 11.
- Triplocania furcata* New. Brazil (V): Pereira *et al.*, 2022b (figs.). Holotype destroyed: Silva Neto *et al.*, 2021d: 11.
- Triplocania furcatoides* Gonzalez-Obando, Carrejo-Gironza & Garcia Aldrete, 2017a. Brazil (V): Pereira *et al.*, 2022b (figs.).

## Epipsocidae

- Bertkauia lucifuga* (Rambur). Germany (I): Klausnitzer & Altmann, 2021.
- Epipsocopsis* spec. Anat.: Kawata *et al.*, 2022 (thoracic muscles).
- Epipsocus uniformis* New. Holotype destroyed: Silva Neto *et al.*, 2021d: 5.
- Epipsocus willineri* New. Holotype destroyed: Silva Neto *et al.*, 2021d: 5.
- Mesepipsocus brasiliensis* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 6.
- Mesepipsocus brevistigma* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 6.
- Mesepipsocus brunellus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 6.
- Mesepipsocus fuscatus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 8.
- Mesepipsocus niger* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 8.
- Mesepipsocus obscurus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 8.
- Mesepipsocus roesleri* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 8.
- Mesepipsocus roncadorensis* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 9.
- Mesepipsocus sinuatus* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 9.
- Mesepipsocus taitubai* (New). Holotype destroyed: Silva Neto *et al.*, 2021d: 9.
- Neurostigma* Enderlein. Checklist of species with distribution: Soares Reategui *et al.*, 2022a, 2022b.
- Neurostigma atlanticum*\* Soares Reategui, Rafael & Silva-Neto, 2022, in Soares Reategui *et al.*, 2022a: 34. Brazil (V).

*Neurostigma garcialdretei* Mendivil Nieto, Gonzalez Obando & Carrejo Gironza, 2020. Brazil, Colombia (V): Soares Reategui *et al.*, 2022a.  
*Neurostigma xanthopterum* New. Updated diagnosis, description of female, variability: Soares Reategui *et al.*, 2022b. Brazil (V).

#### Psocidae

*Amphigerontia bifasciata* (Latreille). Germany (I): Klausnitzer & Altmann, 2021.  
*Amphigerontia contaminata* (Stephens). Bulgaria (I): Georgiev, 2022f.  
*Blaste conspurcata* (Rambur). Bulgaria (I): Georgiev, 2022f.  
*Blaste quadrimaculata* (Latreille). Germany (I): Klausnitzer & Altmann, 2021.  
*Ceratostigma* Li Fasheng, 2002a. Revised diagnosis, key to species: Jie Lulan *et al.*, 2022.  
*Ceratostigma gracile* Li Fasheng, 2002a. Revised diagnosis: Jie Lulan *et al.*, 2022 (species name several times misspelled *gracilis*). China (VIII).  
*Ceratostigma lisae* (Thornton). Jie Lulan *et al.*, 2022: 199 (**from** *Metylophorus*) (diagnosis). Indonesia (VIII).  
*Ceratostigma macrostigmatum* (Li Fasheng & Yang Chikun). Revised diagnosis: Jie Lulan *et al.*, 2022. China (VIII).  
*Ceratostigma stagona*\* Jie Lulan, Liang Feiyang & Liu Xingyue 2022: 201. China (VIII).  
*Hyalopsocus contrarius* (Reuter). Bulgaria (I): Georgiev, 2022b. Germany (I): Klausnitzer & Altmann, 2021.  
*Loensia fasciata* (Fabricius). Germany (I): Klausnitzer & Altmann, 2021 (photograph).  
*Loensia pearmani* Kimmins. Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021.  
*Loensia variegata* (Latreille).Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021  
*Metylophorus nebulosus* (Stephens). Germany (I): Klausnitzer & Altmann, 2021 (photograph).  
*Oreopsocus montanus* (Kolbe). Germany (I): Klausnitzer & Altmann, 2021.  
*Psococerastis gibbosa* (Sulzer). Bulgaria (I): Georgiev, 2022f. Germany (I): Klausnitzer & Altmann, 2021 (photograph).  
*Psocus bipunctatus* (Linnaeus). Germany (I): Klausnitzer & Altmann, 2021 (photograph).  
*Sigmatoneura* spec. Kenya (VI): Georgiev, 2022d. South Africa (VI): Georgiev, 2022d.  
*Trichadenotecnum circularoides* Badonnel. Anat.: Kawata *et al.*, 2022 (thoracic muscles).  
*Trichadenotecnum germanicum* Roesler. Germany (I): Klausnitzer & Altmann, 2021.  
*Trichadenotecnum innuptum* Betz. Bulgaria (I): Georgiev, 2022f.  
*Trichadenotecnum majus* (Kolbe). Bulgaria (I): Georgiev, 2022f.  
*Trichadenotecnum pardus* Badonnel. Kenya (VI): Georgiev, 2022d.  
*Trichadenotecnum pseudomedium* Yoshizawa, 2001a. Anat.: Cheng Zixin & Yoshizawa, 2022 (muscles of female genitalia).  
*Trichadenotecnum sexpunctatum* (Linnaeus). Germany (I): Klausnitzer & Altmann, 2021.

#### 4. Additions to the Bibliography

NOTE: Complete bibliographical references to publications cited in the present paper, which are not listed here, can be found in the World Bibliography (Lienhard & Smithers, 2002: 493-664) or in Parts 1 to 21 of the "Additions"; see also **Synthesis of Parts 1-10** (Lienhard, 2016d = Psocid News Special Issue 3) and **Synthesis of Parts 11-20** (Lienhard, 2021b = Psocid News Special Issue 4).

Remarks: Papers with two authors are listed in alphabetical order of second authors after the chronological list of papers with the first author as unique author. Papers with more than two authors (i. e. "first author *et al.*"-papers) are listed chronologically after the two-author papers. References to papers published in the same year are distinguished by suffix-letters added to the publication year. No cross-references to co-authors or editors are given.

For a **subject bibliography** see below and Lienhard, 2016c (Psocid News Special Issue 2), Lienhard, 2021b (Psocid News Special Issue 4) and Lienhard, 2022 (Part 21 of the "Additions").

Abu El-Hassan, G. L. M., Alfarraj, S., Alharbi, S. A. & Atiya, N. H. 2021. Survey of insect pests in the manuscripts library of Coptic museum in Egypt. *Saudi Journal of Biological Sciences* 28(9): 5061-5064. (**Only abstract seen**).

- Alvarez-Parra, S. & Nel, A. 2022. A new genus of setose-winged barklice (Psocodea: Trogiomorpha: Lepidopsocidae) from Eocene amber of Oise with notes on the biogeography of Thylacellinae. *Historical Biology*, online 01 June 2022, 10 pp., 5 figs.
- Alvarez-Parra, S., Peñalver, E., Nel, A. & Delclos, X. 2022. New barklice (Psocodea: Trogiomorpha) from Lower Cretaceous Spanish amber. *Papers in Palaeontology*, 2022, e1436, 28 pp., 11 figs.
- Athanassiou, C. G., Arthur, F. H., Kavallieratos, N. G. & Hartzler, K. L. 2021. Influence of the presence of flour on the efficacy of low temperatures against stored product insects. *Crop Protection* 144, art. 105514. **(Only abstract seen)**.
- Bonino, E. 2022. Amber art, a journey between science and beauty. *Bibliothèque royale de Belgique*, 295 pp. (Psocodea: pp. 226, 229). **(Not seen)**.
- Cheng Zixin & Yoshizawa, K. 2022. Exploration of the homology among the muscles associated with the female genitalia of the three suborders of Psocodea (Insecta). *Arthropod Structure and Development* 66, online 101141, 14 pp., 15 figs.
- Cordoba, S. P. & Perez, E. C. 2021. La Colección Entomológica del Instituto-Fundación Miguel Lillo, Tucumán, Argentina. *Acta Zoologica Mexicana* 37, e3712413.
- Costa, J. N. M., Teixeira, C. A. D., Cutrim, M., Silva Neto, A. M. da, Rafael, J. A. & Souza, J. G. de 2022. First record of Psocodea (Psocoptera) on coffee (*Coffea canephora*) in the Brazilian Amazon (Rondonia State). *Acta Amazonica* 52(4): 285-288.
- Cutrim, M., Silva Neto, A. M. da, Garcia Aldrete, A. N., Ferreira, R. L. & Rafael, J. A. 2022a. Intraspecific wing venation and phallosome taxonomy updates in species of *Loneura* Navas (Psocodea, Ptiloneuridae), with one new species from cave and key to *Loneura* species from Brazil. *Zootaxa* 5165(2): 253-273, 89 figs.
- Cutrim, M., Silva Neto, A. M. da, Rafael, J. A. & Garcia Aldrete, A. N. 2022b. The genus *Ptiloneura* Enderlein, 1901 (Psocodea, 'Psocoptera', Ptiloneuridae) in the Brazilian Amazon Forest and Atlantic Forest: new species, variations in forewings and a key to the species. *Zoosystema* 44(20): 493-501, 4 figs.
- Danso, J. K., Opit, G. P., Noden, B. H. & Giles, K. L. 2022. Estimating discriminating doses of phosphine for adults of eight species of psocids of genera *Liposcelis* (Psocodea: Liposcelididae) and *Lepinotus* (Psocodea: Trogiidae). *Journal of Stored Products Research* 99, art. 102025. **(Only abstract seen)**.
- de Moya, R. S. 2022. Illumina whole genome sequencing indicates ploidy level differences within the *Valenzuela flavidus* (Psocodea: Psocomorpha: Caeciliusidae) species complex. *Systematic Entomology* 47: 202-212, 3 figs. (First published online 21 October 2021).
- Dennis, D. S. 2021. Ethology of *Holcocephala calva* (Loew, 1872) (Diptera: Asilidae) in Northeastern Florida, USA. *Journal of the Entomological Research Society* 23: 257-277. **(Only abstract seen)**.
- Engel, M. S. & Wang Bo 2022. A new species of embidopsocine barklouse in Langhian amber from Zhangpu, China (Psocoptera: Liposcelididae). *Palaeoentomology* 5(5): 487-492, 4 figs.
- Feng Shiqian, Pozzi, A., Stejskal, V., Opit, G., Yang Qianqian, Shao Renfu, Dowling, D. K. & Li Zhihong 2022a. Fragmentation in mitochondrial genomes in relation to elevated sequence divergence and extreme rearrangements. *BMC Biology* (2022) 20: 7, 17 pp., 5 figs.
- Feng Shiqian, Opit, G., Deng Wenxin, Stejskal, V. & Li Zhihong 2022b. A chromosome-level genome of the booklouse, *Liposcelis brunnea*, provides insight into louse evolution and environmental stress adaptation. *GigaScience*, 2022, 11, 1-10, 5 figs.
- Feng Yi-Xi, Lu Xin-Xin, Du Yue-Shen, Zheng Yu, Zeng Ding & Du Shu-Shan 2022. Sesquiterpenoid-rich essential oils from two Magnolia plants: contact and repellent activity to three stored-product insects. *Journal of Oleo Science* 71(3): 435-443. **(Only abstract seen)**.
- Ferraz, C. S., Ataíde, L. M. S., Gondim, M. G. C. & Pallini, A. 2022. Arthropods associated with the lychee erinose mite, *Aceria litchii* (Acari: Eriophyidae) on lychee trees in Minas Gerais, Brazil. *Experimental and Applied Acarology* 88(3-4): 289-300. **(Only abstract seen)**.
- Garcia Aldrete, A. N. 2022. A new species of *Lachesilla* (Psocodea: Psocomorpha: Lachesillidae) in the *L. texcocana* species group, from El Triunfo Biosphere Reserve; Chiapas, Mexico. *Revista Mexicana de Biodiversidad* 93, e934167, 4 pp., 5 figs.
- Garcia Aldrete, A. N. & Saenz Manchola, O. F. 2022. A new species of *Ectopsocus* (Psocodea: Psocomorpha: Ectopsocidae), from Baja California Peninsula and Oaxaca, Mexico. *Zootaxa* 5134(4): 593-596, 9 figs.
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## 5. Subject Bibliography for Part 22 of the Additions

**NOTE:** A Subject Bibliography for Lienhard & Smithers (2002) and for Parts 1-15 of the Additions is given by Lienhard (2016c = Psocid News Special Issue 2) and for Parts 16-20 in Lienhard (2021b = Psocid News Special Issue 4). For Part 21 of the Additions the subject bibliography is given by Lienhard, 2022.

### Behaviour

- 2022 Kamimura & Yoshizawa, 2022 (Add. 22) (*Neotrogla*, sex role reversal)
- 2022 Mendez *et al.*, 2022 (Add. 22) (attraction to ornamental lighting in urban area)

### Biogeography

- 2022 Alvarez-Parra *et al.*, 2022 (Add. 22) (global palaeodistribution of suborders)

### Biology, life history, physiology, genetics

- 2022 de Moya, 2022 (Add. 22) (ploidy level differences in sexual and asexual populations)
- 2022 Feng Shiqian *et al.*, 2022a (Add. 22) (mitochondrial genome, *Liposcelis*)
- 2022 Feng Shiqian *et al.*, 2022b (Add. 22) (chromosome level genome, *Liposcelis*)
- 2022 Hakim *et al.*, 2022 (Add. 22) (debris-carrying nymph from Lebanese amber)
- 2022 Kumar *et al.*, 2022 (Add. 22) (pp. 24-26: natural surface coating of wing membranes, mentioned after Lienhard *et al.*, 2012)
- 2022 Yang Bin-Bin *et al.*, 2022 (Add. 22) (vitellogenesis and ovarian development, *Liposcelis*)

### Collections

- 2021 Cordoba & Perez, 2021 (Add. 22) (presence of Psoc. in Colección Entomológica del Instituto-Fundación Miguel Lillo, Tucumán, Argentina mentioned, but no taxa listed)
- 2021 Silva Neto *et al.*, 2021d (Add. 22) (types destroyed at National Museum of Brazil, Rio de Janeiro)

### Ecology

- 2022 Feng Shiqian *et al.*, 2022b (Add. 22) (environmental stress adaptation, *Liposcelis*)
- 2022 Ferraz *et al.*, 2022 (Add. 22) (psocids on lychee trees, Brazil)
- 2022 Gwiazdowicz, *et al.* 2022 (Add. 22) (psocids on an endemic tree species, Greece: Crete)
- 2022 Lampert *et al.*, 2022 (Add. 22) (psocids on *Quercus* spp., USA)
- 2022 Novais *et al.* 2022 (Add. 22) (colonisation of leaf shelters, Mexico)
- 2022 Rozanova *et al.*, 2022 (Add. 22) (presence of psocids in "arthropod rain", Russia)

### General treatises, keys, bibliographies

- 2022 Lienhard, 2022 (Add. 22) (Additions to the World Catalogue and Bibliography, Part 21).

### History, biographies

- 2021 Klausnitzer & Altmann, 2021 (Add. 22) (Michael Rostock)
- 2022 Liu Xingyue & Cao Liran 2022 (Add. 22) (obituary Li Fasheng)

### **Morphology, anatomy**

- 2022 Cheng Zixin & Yoshizawa, 2022 (Add.22) (muscles of female genitalia)  
2022 Cutrim *et al.*, 2022a (Add. 22) (variability of wing venation)  
2022 Kawata *et al.*, 2022 (Add. 22) (thoracic muscles)

### **Palaeontology**

- 2022 Alvarez-Parra & Nel, 2022 (Add. 22) (Eocene amber, France)  
2022 Alvarez-Parra *et al.*, 2022 (Add. 22) (Lower Cretaceous amber, Spain)  
2022 Bonino, 2022 (Add. 22) (Psocodea in amber)  
2022 Engel & Wang, 2022 (Add. 22) (Miocene amber, China)  
2022 Hakim *et al.*, 2022 (Add. 22) (debris-carrying nymph from Lebanese amber)  
2022 Li Sheng *et al.*, 2022 (Add. 22) (mid-Cretaceous Burmese amber)  
2022 Liang Feiyang *et al.*, 2022 (Add. 22) (mid-Cretaceous Burmese amber)  
2022 Maksoud *et al.*, 2022 (Add. 22) (Lower Cretaceous Amber, Lebanon)  
2022 Xu Chunpeng *et al.*, 2022 (Add. 22) (debris-carrying camouflage, Cretaceous)  
2022 Zhang Xinyi *et al.*, 2022 (Add. 22) (mid-Cretaceous Burmese amber)

### **Pests**

- 2021 Abu El-Hassan *et al.*, 2021 (Add. 22) (*Liposcelis* pest in library)  
2021 Athanassiou *et al.*, 2021 (Add. 22) (*Liposcelis*, cold tolerance, control)  
2021 Savoldelli, S. *et al.*, 2021 (Add. 22) (in historical library, Italy)  
2022 Danso *et al.*, 2022 (Add. 22) (*Liposcelis*, *Lepinotus*, phosphine resistance)  
2022 Feng Yi-Xi *et al.*, 2022 (Add. 22) (*Liposcelis*, control)  
2022 Mediannikov *et al.*, 2022 (Add. 22) (*Liposcelis* as pathogen in mammals)  
2022 Miralles-Núñez *et al.*, 2022 (Add. 22) (*Ectopsocus* in stored products)  
2022 Wang Xiang-Dong *et al.*, 2022 (Add. 22) (*Liposcelis*, control)  
2022 Zhang Jia-Wei *et al.*, 2022a, 2022b (Add. 22) (*Liposcelis*, control)

### **Phylogeny, evolution, classification**

- 2022 Cheng Zixin & Yoshizawa, 2022 (Add.22) (muscles of female genitalia)  
2022 Feng Shiqian *et al.*, 2022b (Add. 22) (louse evolution)  
2022 Kawata *et al.*, 2022 (Add. 22) (thoracic muscles)  
2022 Li Sheng *et al.*, 2022 (Add. 22) (infraorder Atropetae)  
2022 Saenz Manchola *et al.*, 2022a (Add. 22) (Psocomorpha)  
2022 Saenz Manchola *et al.*, 2022b (Add. 22) (Lachesillidae and Homilopsocidea)

### **Predators, parasites, parasitoids**

- 2021 Dennis, 2021 (Add. 22) (Diptera Asilidae as predator)  
2022 Honsberger *et al.*, 2022 (Add. 22) (*Lepidopsocus* as host of an egg endoparasitoid)  
2022 Vivas-Toro & Mendivil-Nieto, 2022 (Add. 22) (bat as predator, Colombia)

### **Techniques**

- 2022 de Moya, R. S., 2022 (Add. 22) (Illumina whole genome sequencing)  
2022 Saenz Manchola *et al.*, 2022a, 2022b (Add. 22) (phylogenomics)

## EDITORIAL

"Psocid News" publishes any kinds of topics (formal or informal) that may be interesting for psocidologists, but articles containing official nomenclatural acts (e.g. descriptions of new taxa, proposals of new combinations or new synonyms) will not be accepted for publication by the editor (see below).

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